

# User Interface Styling

The Style Manager allows you to modify many aspects of the OpenCPN user interface:

- The toolbar icons, background and shape.
- Which tools appear in the toolbar.
- The size and background of the chart status bar.
- The background of the active route window.

## Configuration files

When OpenCPN starts it will look for files named **styleXXX.xml** (where the XXX means that any text is allowed here) in the **uidata** subdirectory of the installation, and also in the user settings directory ( **~/.opencpn** under Linux).

Each style.xml file defines one or several styles. The overall structure of the file should look like this:

```
<styles>
  <style name="A name here">
    <description>...</description>
    <graphics-file name="iconfile.png" />
    <chart-status-icon width="40"/>
    <chart-status-window transparent="true"/>
    <active-route>
      <font-color r="50" g="50" b="50" />
      <text-background-location x="660" y="260" width="111" height="43" />
    </active-route>
    <tools>
      <horizontal>
        <separation distance="0"/>
        <margin top="4" bottom="4" left="4" right="0" invisible="true"/>
        <background-location x="660" y="60" />
        <toggled-location x="20" y="60" width="38" height="32"/>
        <size x="38" y="32"/>
        <toolbar-start x="100" y="60" width="4" height="32"/>
        <toolbar-end x="140" y="60" width="4" height="32"/>
        <toolbar-corners radius="3"/>
      </horizontal>
      <vertical>
        ...same as for <horizontal />
      </vertical>
      <tool name="...">
        <icon-location x="658" y="20"/>
        <rollover-location x="658" y="220"/>
        <disabled-location x="658" y="320"/>
      </tool>
      ...more tools.
    </tools>
    <icons>
      <icon name="...">
        <icon-location x="700" y="20"/>
      </icon>
      ...more icons.
    </icons>
  </style>
</styles>
```

All bitmaps that the style needs are defined in a PNG file, which is named in the **<graphics-file>** tag. The various **<xxx-location>** tags refer to bitmap locations in this file. Locations are in X/Y coordinates with the upper left corner as (0,0) and with positive Y downwards. This file should be a 24 bit PNG. Transparency is fully supported, you can use semitransparent icons and backgrounds to combine various effects.

The **<tools>** tag contains overall parameters for the **<horizontal>** and **<vertical>** versions of the toolbar. This makes it possible to have non-square buttons and still have the toolbar nicely rendered in both orientations. The separation distance is the separation in pixels between two toolbar buttons. When using non-square buttons the tool icon might have different positions on the background for horizontal and vertical. In this case, position the icons correctly for the horizontal case, and then specify the offset for the vertical case using the tag **<icon-offset x="..." y="..." />** where X/Y are in pixels and are allowed to be negative.

The margins are the margins around the outside, measured in pixels. The margin can also be made transparent. With a transparent toolbar the window edge snap will have a space between the window

edge and the buttons.

**<background-location>** and **<toggled-location>** should provide two different backgrounds, one for the non-toggled and one for the toggled (or pressed) state of the button. The toggled background is allowed to be larger (but not smaller) than the no-toggled. If you use this feature, make sure to specify enough spacing and margins to render the larger background properly.

The **<size>** tag specifies a default size for tools, but this can be overridden for an individual tool in its own tag.

The toolbar can be further styled with nice looking start and end images using the **<toolbar-start / end >** tags. These are drawn on top of the other graphics.

The **<toolbar-corners>** tag allows you to specify the corner radius of the toolbar. **NB!** Rounded corners are only visible if you use transparent margins.

**<tool>** is an item in the toolbar. It should provide three icons: A “normal” one plus the rolled over and disabled states. If you wish to hide a certain tool in your style you can specify the **<hide-in-toolbar/>** tag for it.

**<icon>** is a general purpose icon, not used in the toolbar. Cursors and waypoint markers are examples of this type of icon. It has only one state.

## Tool names and plug-ins

The standard OpenCPN tools have names, which you can easily get by looking at one of the default installed styles.

Plug-ins are styled based on their “common name”. If your style provides a tool for the plug-in, that will have priority over any icons provided by the plugin itself. But for plug-ins that use their icons as a means of communicating status, the plug-ins icon will again get priority. (World Magnetic Model and Radar Overlay are examples of the latter).

From:

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Last update: 2020/03/07 02:56

